

**2019 Annual Review of
Statutory Childhood Immunization Requirements**

Prepared By

Division of Immunization, Office of Epidemiology

Virginia Department of Health

June 25, 2019

The Virginia Department of Health (VDH) completed the annual review of Virginia's statutory childhood immunization requirements (§32.1-46) and found that the requirements for five vaccines are not in alignment with current recommendations of the Advisory Committee on Immunization Practices (ACIP), Centers for Disease Control and Prevention (CDC), American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), and American College of Obstetricians and Gynecologists (ACOG).

Introduction

Vaccines help protect the health and well-being of children and adolescents. They work by safely presenting weak or dead germs to an individual, which allows the individual to create antibodies and develop a strong immune system before they come into contact with the disease. When exposed to that germ in the future, their body's immune system recognizes the germ and can work quickly and effectively to prevent severe illness ("Vaccine Basics," 2017). Vaccination is particularly helpful in preventing illness in daycare and school settings where there is close contact among individuals. When enough of the population is vaccinated against a specific disease, the germ cannot spread as easily. This protects everyone, including those who are most vulnerable because they are too young to get vaccinated or have weak immune systems ("Vaccines Protect Your Community," 2017).

The ACIP recommends immunization schedules and the CDC, AAP, AAFP, and ACOG approve them. Each state determines its own laws to establish vaccination requirements for children attending daycare and school.

Background

The Virginia legislature requires the State Board of Health to perform an annual review of childhood immunization requirements in Virginia. §32.1-46 of the Virginia Code (Code) requires that (1) "the parent, guardian, or person standing in loco parentis shall cause such child to be immunized in accordance with the Immunization Schedule developed and published by the Centers for Disease Control (CDC), Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP)"; (2) "required immunizations for attendance at a public or private elementary, middle or secondary school, child care center, nursery school, family day care home or developmental center must be those set forth in the State Board of Health Regulations (Regulations) for the Immunization of School Children"; and (3) the Board's Regulations shall require, at a minimum, certain specified vaccines.

Multiple factors influence decisions to require immunizations for school attendance including ACIP recommendations, fiscal considerations, feasibility of implementing the requirement, and administrative burdens that may be associated with the requirements.

Findings

VDH reviewed the Commonwealth's immunization requirements for school attendance and compared them to the recommendations set forth by ACIP. A description of the differences identified are shown in Table 1:

Table 1		
<i>Differences in Virginia Immunization Statutory Requirements and Recommendations from the Advisory Committee on Immunization Practices (ACIP)</i>		
Vaccine	ACIP Recommended Immunization Schedule	Virginia Requirements for School Attendance
Human Papillomavirus (HPV) Vaccine	Routine vaccination for all adolescents (boys and girls) at 11–12 years: <ul style="list-style-type: none"> • If first dose given prior to 15 years of age: give 2-dose series. • If first dose given at age 15 years or older: give 3-dose series. 	Girls: 3 doses required. The first dose shall be administered before the child enters the sixth grade. Boys: not required. No differentiation of number of doses based on age at the time of start of the series. Parent/guardian may elect for the child not to receive the HPV vaccine, after having reviewed educational materials approved for such use by the Board of Health.
Meningococcal Conjugate Vaccine	Routine vaccination for all adolescents; first dose at 11-12 years and a second dose at 16 years.	Not required.
Hepatitis A Vaccine	Routine vaccination for all children beginning at 1 year of age: 2 doses, separated by 6-18 months.	Not required.
Influenza Vaccine	Routine vaccination annually for all children/adolescents age 6 months and older.	Not required.
Rotavirus Vaccine	Routine vaccination; 2 dose or 3 dose series are available; the series may not be initiated on or after age 15 weeks. Maximum age for final dose is 8 months.	Not required.

Human Papillomavirus (HPV) Vaccine

HPV can cause cervical, oropharyngeal and other specific cancers. Cancer often takes years, even decades, to develop after a person gets HPV. There is no way to know which people who have HPV will develop cancer or other health problems. People with weak immune systems

may be less able to fight off HPV. They may also be more likely to develop health problems from HPV. In Virginia, an estimated total of 1,004 HPV-associated cancers were reported each year during 2011–2015. Of these, around 77% (777/1,004) were attributable to HPV and, of these, around 93% (725/777) could have been prevented with the 9-valent HPV vaccine, including 296 oropharyngeal and 208 cervical cancers. Of note, the majority of the oropharyngeal cancers occurred among males (HPV Vaccination Report, CDC).

The Code requires three doses of HPV vaccine for girls for school attendance with a provision for parents to opt out. Virginia does not have a requirement for HPV vaccination for boys for school attendance. ACIP recommends the routine use of the HPV vaccine in females and males aged 11 or 12 years. In 2016, ACIP changed the number of recommended doses for males and females to a two-dose vaccine series if the first dose is given before the age of 15. For persons who are 15 years of age or older when the series is initiated, the recommendation remains for three doses.

In the 2017 National Immunization Survey-Teen (NIS-Teen), 68% of girls and 50.4% of boys ages 13-17 in Virginia were up-to-date on their recommended series of HPV vaccine. The Code does not require documentation of a parent's decision to opt out of the HPV immunization requirement. If documentation were required (i.e., an indication on the child's MCH 213G School Health Entrance Form), VDH would allow for improved understanding of local immunization coverage rates.

Assuming current purchase price of vaccine from federal procurement contracts and the existing vaccination coverage rate of boys already covered by the healthcare system, implementing a requirement for two doses of HPV vaccine for boys in Virginia would require an increase of approximately \$261,080 annually to the state general funds allocated to VDH for childhood immunizations. This would cover the increased costs to provide the vaccine to VDH clients not eligible for the Vaccines for Children program. Projected costs are based on vaccine acquisition costs and administration costs for insured clients minus projected reimbursement for administration costs billed to third party payers. Additionally, the Department of Medical Assistance Services (DMAS) estimates that requiring two doses of HPV vaccine for boys with one dose at 11-12 years of age and one dose 6 months later would lead to increased utilization. DMAS projects approximately \$220,067 additional state general funds would be needed annually to cover increased costs of providing two HPV vaccines to adolescent boys covered by Medicaid. The projected increased cost to the Commonwealth would be the combination of the costs to VDH and DMAS, an approximate total of \$481,147.

Meningococcal Conjugate Vaccine

Meningococcal disease is a severe, and potentially deadly, illness. It is a leading cause of bacterial meningitis and sepsis in the United States. Six cases of meningococcal disease were reported in Virginia in 2018. There was one case reported in the 0-9 year age group, two cases in the 10-19 year age group, one case in the 40-49 year age group, and two cases in the group over 60 years of age. Two of these persons died, one individual was under 10 years old and one individual was over 60 years old.

The Code does not have a requirement for meningococcal vaccination for school attendance. ACIP recommendations are for all 11 to 12 year olds to be vaccinated with a

meningococcal conjugate vaccine. A booster dose is recommended at age 16 years. Meningococcal conjugate vaccine was added to the ACIP schedule in 2006. Currently, 30 states plus the District of Columbia have a requirement for meningococcal vaccination for secondary school attendance.

According to the 2017 NIS-Teen, 80% of adolescents ages 13-17 in Virginia received at least one dose of meningococcal vaccine. This is lower than the national average of 85.1%.

Assuming current purchase price of vaccine from federal procurement contracts and the vaccination coverage rate of adolescents already covered by the healthcare system, implementing a requirement for two doses of meningococcal conjugate vaccine in Virginia would require an increase of approximately \$338,936 annually to the state general funds allocated to VDH for childhood immunizations. This would cover the increased costs to provide the vaccine to VDH clients not eligible for the Vaccines for Children program. Projected costs are based on vaccine acquisition costs and administration costs for insured clients minus projected reimbursement for administration costs billed to third party payers. Additionally, DMAS estimates that requiring one dose of meningococcal conjugate vaccine prior to entry into sixth grade and one dose at 16 years of age would lead to increased utilization. DMAS projects approximately \$355,995 additional state general funds would be needed annually to cover increased costs of providing two meningococcal conjugate vaccines to children covered by Medicaid. The projected increased cost to the Commonwealth would be the combination of the costs to VDH and DMAS, an approximate total of \$694,931.

Hepatitis A Vaccine

Hepatitis A is a highly contagious liver infection caused by the hepatitis A virus. It can range from a mild illness to a severe illness lasting several months. Hepatitis A usually spreads when a person unknowingly ingests the virus from objects, food, or drinks contaminated by small, undetected amounts of stool from an infected person. In 2018, there were 83 cases of acute hepatitis A reported in Virginia.

The Code does not have a requirement for hepatitis A vaccination for daycare or school attendance. ACIP recommends hepatitis A vaccine for all children beginning at 1 year of age. Currently, 21 states plus the District of Columbia require the Hepatitis A vaccination prior to enrollment in a childcare facility and 14 states plus the District of Columbia require hepatitis A vaccination prior to kindergarten entry.

The 2017 NIS-Child data show that Virginia's coverage rate for this vaccine is just below the national average for children 19-35 months of age (59.7% United States; 58.4% Virginia). It is likely that more children have received this vaccine but it is not documented in the daycare facility's record because there is no requirement to do so.

Assuming current purchase price of vaccine from federal procurement contracts and the vaccination coverage rate of children already covered by the healthcare system, implementing a requirement for two doses of hepatitis A vaccine in Virginia would require an increase of approximately \$93,269 annually to the state general funds allocated to VDH for childhood immunizations. This would cover the increased costs to provide the vaccine to VDH clients not eligible for the Vaccines for Children program. Projected costs are based on vaccine acquisition

costs and administration costs for insured clients minus projected reimbursement for administration costs billed to third party payers. Additionally, DMAS estimates that requiring two doses of hepatitis A vaccine at one year of age and one dose 6 months later would lead to increased utilization. DMAS projects approximately \$431,924 additional state general funds would be needed annually to cover increased costs of providing two hepatitis A vaccines to children covered by Medicaid. The projected increased cost to the Commonwealth would be the combination of the costs to VDH and DMAS, an approximate total of \$525,193.

Influenza Vaccine

Influenza, commonly called “flu”, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of flu infection can result in hospitalization or death. Some people, such as older people, young children, and people with certain health conditions, are at high risk of serious flu complications. VDH investigated 205 influenza outbreaks during the 2017-18 flu season, and 6 influenza-associated pediatric deaths were reported.

Virginia Code does not have a requirement for influenza vaccination for daycare or school attendance. In 2010, ACIP expanded the recommended schedule for the influenza vaccine to include that all persons older than 6 months of age should receive seasonal influenza vaccine annually. Five states require annual influenza vaccine for daycare attendance.

Influenza vaccination coverage estimates indicate that 65.2% of Virginia children aged 6 months to 17 years received vaccine in the 2017-18 influenza season, compared to 57.9% of children nationally.

Requiring influenza vaccine annually for all children for daycare and/or school attendance would have significant cost and complexity of implementation and would need to be studied in detail to assess feasibility and cost to VDH, DMAS and school systems.

Rotavirus Vaccine

Rotavirus causes inflammation of the stomach and intestines and is most common in infants and young children. Rotavirus can be very serious causing severe dehydration, diarrhea, vomiting, fever and abdominal pain. Prior to introduction of the vaccine in 2006, nearly all children in the U.S. were infected with rotavirus by five years of age resulting in more than 400,000 doctor visits, over 200,000 emergency room visits, 55,000 – 70,000 hospitalizations and 20-60 deaths. Globally rotavirus is still the leading cause of severe diarrhea in infants and young children and in 2013 caused an estimated 215,000 deaths worldwide in children younger than 5 years old.

The Code does not have a requirement for rotavirus vaccination for daycare attendance. ACIP recommends that infants get rotavirus vaccine to protect against rotavirus disease. There are two vaccines available to prevent rotavirus. Both vaccines have a maximum age of administration at 8 months of age. Six states require rotavirus vaccination for daycare.

Virginia surpassed the Healthy People 2020 goal of 80% for complete rotavirus vaccination series in 19-35 month old children, according to the 2017 National Immunization Survey. Virginia’s coverage rate was 81.2% compared to the national rate of 73.2%.

Requiring rotavirus vaccine for daycare attendance would need to be studied in detail to assess feasibility and cost to VDH, DMAS and other state agencies. Virginia's relatively high rotavirus coverage rates combined with the very short timeframe for vaccination may make such an assessment unnecessary.

Conclusions

§32.1-46 of the Code of Virginia includes a requirement that the parent, guardian, or person standing in loco parentis shall cause such child to be immunized in accordance with the Immunization Schedule developed and published by the CDC, ACIP, AAP, and the AAFP. Five vaccine requirements for daycare or school attendance in Virginia's childhood immunization statutes are not in alignment with these organizations' immunization recommendations.

References

Vaccine Basics. (2017, December). Retrieved June 17, 2019, from <https://www.vaccines.gov/basics>.

Vaccines Protect Your Community. (2017, December). Retrieved June 17, 2019, from <https://www.vaccines.gov/basics/work/protection>.

Human Papillomavirus (HPV) Vaccination Report: Working Together to Reach National Goals for HPV Vaccination. May 2019. CDC.